



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

**Sermatech International Incorporated
York County
Biddeford, Maine
A-643-71-K-R/A (SM)**

**Departmental
Findings of Fact and Order
Air Emission License**

After review of the air emissions license renewal application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

Sermatech International Incorporated (Sermatech) of Biddeford, Maine has applied to renew their air emission license permitting the operation of emission sources associated with their coatings facility.

Sermatech has also requested a modification to their License to reflect the following:

- Remove Boiler #8 and the MEK parts washer,
- Revise the designations of the existing fuel burning equipment and stacks to match designations used by Sermatech.
- Add 9 fuel burning units.
- Increase annual fuel limit to 165,400,000 scf of Natural gas on a 12 month rolling total.

B. Fuel Burning Equipment

Existing Fuel Burning Equipment

Old Designation	New Designation	Maximum Capacity (MMBtu/hr)	Fuel Type	Maximum Firing Rate (scf/hr)	Stack
Furnace #1	Pit Furnace #1	2.0	Nat. Gas	1942	19 & 20
Furnace #2	Pit Furnace #2	1.4	Nat. Gas	1352	18 & 19
Furnace #3	Pit Furnace #3	2.0	Nat. Gas	1942	16 & 17
Furnace #4	Pit Furnace #4	2.0	Nat. Gas	1942	14 & 15
Furnace #7	Box Furnace K1	2.6	Nat. Gas	2524	9
Furnace #9	Box Furnace K2	2.0	Nat. Gas	1942	8
Furnace #11	Oven #SC1	1.0	Nat. Gas	1040	21
Furnace #15	Box Furnace #1	1.98	Nat. Gas	1922	10
Furnace #16	Box Furnace #2	1.98	Nat. Gas	1922	7
Furnace #17	Box Furnace #3	1.98	Nat. Gas	1922	6

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1235 CENTRAL DRIVE, SKYWAY PARK
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Furnace #18	Box Furnace #4	2.0	Nat. Gas	1942	29
Furnace #19	Box Furnace #5	2.0	Nat. Gas	1942	30
Air Make-up Unit #1	Air Make-up Unit #1	3.0	Nat. Gas	3120	ambient
Air Make-up Unit #2	Air Make-up Unit #2	3.0	Nat. Gas	3120	ambient
Pit Furnace #1	Pit Furnace #0	1.98	Nat. Gas	1922	33

New Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Fuel Type</u>	<u>Maximum Firing Rate (scf/hr)</u>	<u>Stack</u>
Pit Furnace #5	1.98	Nat. Gas	1922	31
Pit Furnace #6	1.98	Nat. Gas	1922	32
New Box Furnace #1	1.98	Nat. Gas	1922	36
New Box Furnace #2	1.98	Nat. Gas	1922	37
New Box Furnace #3	2.64	Nat. Gas	2563	38
Grieve Oven #5	1.0	Nat. Gas	1040	21
Grieve Oven #1	1.0	Nat. Gas	1040	22
Grieve Oven #6	1.0	Nat. Gas	1040	26
Oven #SC3	1.0	Nat. Gas	1040	11

- Sermatech is also installing electrically powered Furnace #23 which is considered insignificant and is listed for inventory purposes only.

C. Application Classification

The modification of a minor source is considered a major modification based on whether or not expected emission increases exceed the "Significant Emission Levels" as defined in the Department's regulations. This modification is determined to be a minor modification. With the fuel limit on the fuel burning units and facility wide hazardous air pollutant (HAP) limits, this application is considered to be a renewal and minor modification of a synthetic minor source and has been processed as such.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (last amended December 24, 2005). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 CMR 100 (last amended December 24, 2005). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Natural Gas Units

The 24 natural gas firing units are each smaller than 10 MMBtu/hr and are not subject to the requirements of EPA New Source Performance Standard (NSPS) 40 CFR Part 60, Subpart Dc for boilers between 10 and 100 MMBtu/hr.

The following represents BACT for Pit furnaces #5 and #6, New Box Furnaces #1-#3, Grieve Ovens #1-#3, and Oven #SC3. The following represents BPT for the remaining natural gas units.

1. Use of natural gas.
2. PM emission limits are based on the BPT and BACT emission rate of 0.05 lb/MMBtu. The PM₁₀ limits are derived from the PM limits.
3. SO₂, NO_x, CO and VOC emission rates are based on AP-42 data dated 10/96 for natural gas fired boilers smaller than 100 MMBtu/hr.
4. Visible emissions from each of the stacks serving the natural gas units shall not exceed 10% opacity on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 3-hour period.

C. Process Areas

1. Diffusion Area

The Diffusion Area operates a coating line consisting of a packed powder coating process and diffusion of the coatings into the base alloy in high temperature furnaces. Emissions from this area include PM HAP. BPT for PM is the use of Dry Filter Media and HEPA filters.

2. SermeTel Area

The SermeTel Area applies protective proprietary coatings to components using high volume, low pressure (HVLP) spray guns in spray booths. Emissions from this area include PM, VOC and HAP. BPT is the use of HVLP spray guns and poly filters.

3. Thermal Spray Area (plasma)

The Thermal Spray Area applies a variety of powder coatings through energy created by a plasma arc. BPT for PM is the use of Dry Filter Media and HEPA filters.

4. Sermalcote Mixing Area

The Sermalcote Mixing Area applies a slurry coating to components by pouring the coating on the part, both inside and out. Emissions from this area include PM HAP. BPT for PM is the use of Dry Filter Media and HEPA filters.

5. Masking Area

The Masking Area is a preparatory process for all of the coating applications. The maskants are prepared using a variety of materials, including adhesives, diluents and nickel powder to protect areas of a part that are not to be coated.

D. Facility Wide HAP emissions

The following is a list of the VOC HAPs used in the process at this time:

Methyl Ethyl Ketone (MEK)
Toluene
Xylene

BPT for VOC HAP emissions is:

- A facility wide limit of 1.0 ton per year of any one single VOC HAP (12 month rolling total)
- A facility wide limit 2.0 tons per year of total VOC HAPs (12 month rolling total)
- Use of HVLP spray guns in the SermeTel Area.

The following is a list of the PM HAPs used in the process at this time:

Antimony
Cadmium Sulfoselenide
Chromium III
Chromium VI (water soluble)
Chromium Oxide
Chromium
Copper Chromite Spinel
Iron Chromite Spinel
Nickel
Strontium Chroma 2-Ethoxythyl Acetate
Strontium Chromate
Zinc Iron Chromate Spinel

BPT for PM HAP emissions is:

- A facility wide limit of 9.9 tons per year of any one single PM HAP (12 month rolling total)
- A facility wide limit 12.0 tons per year of total PM HAPs (12 month rolling total)
- Use of Dry filter Media and a combination of Dry Filter Media followed by HEPA filters.

The facility wide ton per year limits are in place to keep Sermatech International Incorporated a minor source for HAPs. The record keeping documenting the above limits for HAPs shall be based on MSDS or manufacturer information for the materials and controls used in conjunction with usage and hours of operation, if necessary.

E. Annual Emissions

Sermatech International Incorporated has the following 12 month rolling total emissions, based on:

- The use of 165,400,000 cubic feet of natural gas on a 12 month rolling total basis.
- A facility wide limit of 1.0 ton per year of any one single VOC HAP (12 month rolling total)
- A facility wide limit 2.0 tons per year of total VOC HAPs (12 month rolling total)
- A facility wide limit of 9.9 tons per year of any one single PM HAP (12 month rolling total)
- A facility wide limit 12.0 tons per year of total PM HAPs (12 month rolling total)

Total Annual Emissions for the Facility
(used to calculate the annual license fee)

<u>Pollutant</u>	<u>Combustion Units</u>	<u>Process Equipment</u>	<u>Total TPY</u>
PM	4.2	--	4.2
PM ₁₀	4.2	--	4.2
SO ₂	0.1	--	0.1
NO _x	8.3	--	7.3
CO	7.0	--	7.0
VOC	0.5	9.9	10.4
Single VOC HAP	--	1.0	1.0
Single PM HAP	--	9.9	9.9
Total VOC HAP	--	2.0	2.0
Total PM HAP	--	12.0	12.0

III. AIR QUALITY ANALYSIS

According to 06-096 CMR 115, the level of air quality analyses required for a minor new source shall be determined on a case-by case basis. Based on the information available in the file, and the similarity to existing sources, Maine Ambient Air Quality Standards (MAAQS) will not be violated by this source.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-643-71-K-R/A subject to the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S.A. §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been

necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]

- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
- A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 - 1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 - 2. pursuant to any other requirement of this license to perform stack testing.
 - B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - C. submit a written report to the Department within thirty (30) days from date of test completion.
- [06-096 CMR 115]
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
 - C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
- [06-096 CMR 115]
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for

the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]

- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 CMR 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 115]

SPECIFIC CONDITIONS

- (16) Sermatech shall fire natural gas as fuel in all fuel burning equipment. [06-096 CMR 115, BPT, BACT]
- (17) Sermatech is limited to the use of 165,400,000 cubic feet of natural gas facility wide on a 12 month rolling total basis, based on fuel delivery receipts. Sermatech International Incorporated shall track natural gas delivery on a monthly basis. [06-096 CMR 115, BPT, BACT]
- (18) Licensed fuel burning equipment emission limits: [06-096 CMR 115, BPT, BACT]
- A. Emissions from Pit Furnaces #1, #3, and #4, and Box Furnaces K2, #4 and #5 each shall not exceed the following:

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.10
PM ₁₀	0.10
SO ₂	0.01
NO _x	0.19
CO	0.15
VOC	0.01

B. Emissions from Pit Furnace #2 shall not exceed the following:

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.07
PM ₁₀	0.07
SO ₂	0.01
NO _x	0.14
CO	0.10
VOC	0.01

C. Emissions from Box Furnace K1 shall not exceed the following:

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.13
PM ₁₀	0.13
SO ₂	0.01
NO _x	0.25
CO	0.19
VOC	0.01

D. Emissions from Air Makeup Units #1 and #2 shall not exceed the following:
[06-096 CMR 103]

<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>lb/hr</u>
PM	0.05	0.15
PM ₁₀	n/a	0.15
SO ₂	n/a	0.01
NO _x	n/a	0.29
CO	n/a	0.22
VOC	n/a	0.02

E. Emissions from Oven #SC1 shall not exceed the following:

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.05
PM ₁₀	0.05
SO ₂	0.01
NO _x	0.10
CO	0.17
VOC	0.01

- F. Emissions from Box Furnaces #1-#3, New Box Furnaces #1-#2, and Pit Furnaces #0, #5, and #6, each shall not exceed the following:

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.10
PM ₁₀	0.10
SO ₂	0.01
NO _x	0.19
CO	0.15
VOC	0.01

- G. Emissions from New Box Furnace #3 shall not exceed the following:

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.13
PM ₁₀	0.13
SO ₂	0.01
NO _x	0.26
CO	0.22
VOC	0.01

- H. Emissions from Grieve Ovens #1, #5, and #6, and Oven #SC3 shall not exceed the following:

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.05
PM ₁₀	0.05
SO ₂	0.01
NO _x	0.10
CO	0.08
VOC	0.01

- I. Visible emissions from the stacks serving all fuel burning units (except Air Makeup Units #1 and #2) each shall not exceed an opacity of 10% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 3-hour period. [06-096 CMR 101, BPT, BACT]
- J. Visible emissions from the discharge of Air Makeup Unit #1 and Air Makeup Unit #2 each shall not exceed 10% opacity on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 3-hour period. [06-096 CMR 101, BPT]

- (19) Sermatech shall operate the dust collection devices at all times when the corresponding process equipment is in use. [06-096 CMR 115, BPT]
- (20) Sermatech shall use high volume, low-pressure (HVLP) spray guns in the SermeTel Area. [06-096 CMR 115, BPT]
- (21) Sermatech shall not exceed the following VOC emission limits from all non-fuel burning emissions sources: [06-096 CMR 115, BPT]

	<u>lb/month</u>	<u>TPY</u>
VOCs	1666	9.996

Compliance with the above VOC lb/month and ton per year limits shall be demonstrated by monthly mass balance calculations using the amount of material used and the VOC content of the material as found on the MSDS sheets. Sermatech International Incorporated shall maintain monthly records on the premises to document the name and identification of each coating and the mass of VOC per volume of each coating used on each coating unit, line or operation.

- (22) HAP emissions from Sermatech shall not exceed: [06-096 CMR 115, BPT]
 - A. A facility wide limit of 1.0 ton per year of any one single VOC HAP (12 month rolling total)
 - B. A facility wide limit of 2.0 tons per year of total VOC HAPs (12 month rolling total)
 - C. A facility wide limit of 9.9 tons per year of any one single PM HAP (12 month rolling total)
 - D. A facility wide limit 12.0 tons per year of total PM HAPs (12 month rolling total)

The record keeping documenting the above limits for HAPs shall be based on MSDS or manufacturer information for the materials and controls used in conjunction with usage and hours of operation, if necessary.

- (23) Sermatech shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (Title 38 MRSA §605-C).

(24) **Air Toxics Emission Statement**

If Sermatech exceeds the thresholds for HAPs listed in Appendix A of 06-096 CMR 137 in an inventory year, in accordance with 06-096 CMR 137 the licensee shall report, no later than July 1 every three years (2008, 2011, 2014, etc.) or as otherwise stated in 06-096 CMR 137, the information necessary to accurately update the State's toxic air pollutants emission inventory in a format prescribed by the Department containing the information required in 06-096 CMR 137.

Reports and questions should be directed to:

Attn: HAP Inventory Coordinator
Maine DEP
Bureau of Air Quality
17 State House Station
Augusta, ME 04333-0017

Phone: (207) 287-2437 [06-096 CMR 137]

DONE AND DATED IN AUGUSTA, MAINE THIS 19th DAY OF December 2008.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: James P. Brooks Co. 2
DAVID P. LITTELL, COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: September 18, 2007

Date of application acceptance: February 22, 2008

Date filed with the Board of Environmental Protection: _____

This Order prepared by Mark Roberts and Jonathan Voisine, Bureau of Air Quality.

